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ABSTRACT

This report on the relationship of a complex organization (such as a big-city school system) to its environment critiques the theory and method developed by Paul R. Lawrence and Jay W. Lorsch for analyzing this relationship. To test their approach to organizational analysis, the author conducted a research project in a large urban school system. One of the weaknesses of the Lawrence and Lorsch approach is that it fails to provide urban educators with data concerning which external organizations threaten their survival as an organization, which groups have the resources to help or hurt them, and what major forces in the environment could change the present direction of the city school system. Furthermore, the Lawrence and Lorsch approach speaks indirectly to major policy questions such as decentralization. From this exploratory study has emerged a number of testable hypotheses for future studies. (JF)

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ORGANIZATIONAL ADAPTATION TO FORCES FOR CHANGE IN A BIG CITY SCHOOL SYSTEM

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ORGANIZATIONAL ADAPTATION TO FORCES
FOR CHANGE IN A BIG CITY SCHOOL SYSTEM

Many very complex problems confront the city schools. Professional personnel resent pay-scales below other professional groups and are frustrated by the lack of opportunities for professional advancement.

Parents and other adult citizens are unhappy with the lack of efficiency in urban school systems, especially when industrial organizations are so much more effective by comparison. They are discouraged by the bureaucratic labyrinth they encounter as they try to learn about educational programs or to influence them. They are baffled when they find the schools too inflexible to meet the special needs of their children.

The students are also critical. They ask why the system puts higher value on order and rules than on their own personal development. They ask, "Does it make sense to prepare for a job or to go to college when I risk being shot in another war?" They wonder how they are made to feel so helpless and irresponsible by the teachers and administrators.

Clients, foundations, journalists, and universities are demanding the big city school systems become more relevant. Urban school administrators have been challenged to adapt to changes in the city and the society. Many of these changes, however, are beyond the scope of the school system (e.g., Vietnam, changing technology, racism). They come from outside the system, from what might be termed the organizational environment.

Theory

The notion of complex organizations being affected by their external

environments is not new. Organizational theorists who take the open systems approach to organizational analysis use as a basic premise the idea that an open or living system such as a complex human organization imports, converts and then exports materials to and from the environment.[1] A living system must exchange materials with its environment to maintain its existence.

Katz and Kahn maintain that an open system exhibits the following characteristics: 1) it imports energy from the environment; 2) it reorganizes and processes that energy; 3) it then exports some product to the environment; 4) it imports more energy than it exports so that it is able to store some energy and combat entropy; 5) it receives periodic feedback about how it is functioning in relation to the environment and adjusts accordingly; 6) it finally achieves a steady state where the energy exchanged between the environment and the organization is relatively constant; 7) it moves towards greater differentiation and elaboration of roles to be able to more effectively and efficiently meet the demands of the environment, and 8) the whole process begins all over again in the cyclical manner.[2] Open systems also have the ability to modify or change their states.[3]

Schools, for example, carry on an exchange with their environments

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[1] see William Buckely, Sociology and Modern System Theory (Englewood Cliffs: Prentice Hall, 1967) and A. K. Rice, The Enterprise and Its Environment (London: Tavistock Publications, 1963).

[2] Daniel Katz and Robert Kahn, The Social Psychology of Organizations (New York: Wiley and Sons, 1966), p. 25.

[3] Buckley, op. cit., p. 128.

constantly. They take in students and produce graduates who must then fit into some part of society. They take in many new educational ideas from universities and they produce experiences and information by which the educational community can test the usefulness of these ideas. They hire new teachers and the influence of these teachers is felt in graduate schools, in professional association, in the social community, and in other school systems.

A key aspect of open systems theory, then, is the relationship of the organization to its environment. Because big city school systems are fraught with challenges from without, this environmental approach to organizational analysis could prove to be a useful frame of reference for studying urban school systems.

In 1967, Paul R. Lawrence and Jay W. Lorsch, Professors of Organizational Behavior at the Harvard Business School, published a theory and method for analyzing complex organizations that is "based on seeking relationships between organizational states and processes and external environmental demand." This approach is an attempt to ascertain the direct effects of the environment on the internal functions of the organization.[4]

While there are many definitions of the organizational environment,[5]

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[4] see Paul R. Lawrence and Jay W. Lorsch, Organizations and Environment (1967); and "Differentiation and Integration In Complex Organizations," Administrative Science Quarterly, June, 1967; and Developing Organizations: Diagnosis and Action (1969).

[5] see Tom Burns and G. M. Stalker, The Management of Innovation (1961), p. viii; Anthony Downs, Inside Bureaucracy (1967), pp. 212-213; Edgar H. Schein, Organizational Psychology (1965); pp. 91-92.

Lawrence and Lorsch advance an operational definition of the concept. The organizational environment is defined as all sources of needed organizational information.[6] No attempt is made to define the organization's boundary with its external environment because such boundaries, according to open systems theory, are permeable. For example, a teacher is clearly a member of the organization but as a union negotiator he may be playing an external role. Parents and community members are sometimes members of school committees or teacher aides. On other occasions they may be demanding changes from outside the jurisdiction of the school system.

One of the characteristics of human organizations is that they "display progressive segregation" or divide their labor.[7] This act is usually a reaction to some demand coming from the environment. The organization adds a unit or reorganizes a subsystem because the input from or the output to the environment changes.

For example, the addition of public relations departments to urban school organizations in the early 1960's may be thought of as a reaction to environmental demands. The city schools at that time were under great public pressure to achieve some racial balance or integration. They were being criticized for their mediocrity and their bureaucracy. It was hoped that PR, Madison Avenue style, would help to change the image of the urban school system to one that was innovative and equitably distributed

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[6] Lawrence and Lorsch, Developing Organizations, pp. 16-18; and Organization and Environment, pp. 26-28.

[7] see Daniel Griffiths, ed., Behavioral Science and Educational Administration: The Sixty-Third Yearbook of the National Society for the Study of Education (Chicago: University of Chicago Press, 1964), p. 117.

high quality education.

Another more recent response by urban educators to environmental demands for change is the reorganizing of what used to be departments of examination and appointment. Until recently, candidates were appointed to teaching and administrative positions in the inner city based on their scores on entrance examinations such as the National Teachers Exam. Now there is an environmental demand for the appointment of minority candidates. Examination scores have been changed, some recruitment rules have often been abandoned, examiners are actively pursuing minority prospects and, in most cases, the departments themselves have been reorganized to cope with this environmental demand.

The Lawrence and Lorsch theory maintains that segmentation or the division of labor is a normal practice as the organization copes with its environment. Effective organizations allow for and encourage whatever is necessary to be effective at adapting to environmental demands. The behavioral effects of segmentation on the internal functioning of the work force is what Lawrence and Lorsch refer to as "differentiation." This term is defined as, "the difference in cognitive and emotional orientations among managers in different functional departments."[8]

It is very important at this point that the reader understand the distinction between an environmental requirement and an actual organizational state. The environment requires a certain amount of differentiation. The effects of that requirement on those who work in the organization is referred to as actual differentiation. Actual differentiation is an

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[8]Lawrence and Lorsch, Organization and Environment, p. 11.

organizational state which is precipitated by an environmental requirement for differentiation.

Two of the primary functions of any organization are to divide the labor (segment) and to then coordinate the work to be done by the various segments of the organization. Division of labor, it has been pointed out, is an environmental requirement. The task of coordination is to bring the diverse segments back together to accomplish common organizational purposes. By definition, segmentation divides the parts. Coordination must bring them back together again. The key organizational problem is how to achieve segmentation (an environmental requirement) and coordination at the same time.

Coordination also has two parts. It can be thought of as both an environmental requirement and an organizational state. The environment requires organizations to produce something of value (e.g., widgets, an effective welfare program, good students) to remain in existence. It is necessary to coordinate the various organizational parts to produce a satisfactory product. Also, the environment continually poses problems to be resolved by the organization (e.g., how to prevent student riots in the high schools, how to get more funding) and many of these problems require the combined effort of several organizational units. The amount of collaboration required for the organization to accomplish tasks and solve problems depends on the environment.

Lawrence and Lorsch, in their approach to analyzing the behavioral effects of the environment on the organization, call the organizational state of coordination "integration." This term refers to

> the quality or the state of collaboration that exists among departments that are required to achieve unity

of effort by the demands of the environment.[9]

Integration is the state of relationships--or the potential for future collaboration--between units required by the environment to work together in order to accomplish an organizational task or solve a problem.

There is a link between the states of differentiation and integration. It was discovered in the Lawrence and Lorsch research done in industrial organizations that organizations which are highly differentiated find it very difficult to integrate. The two states are antagonistic. This is also logical.

If managers of two units have very different frames of reference and orientations (differentiation) because the environmental requirements for their jobs are so different, then it is expected that they will not be very cmmpatible. It will be difficult to build the kind of relationship between them (integration) that will permit them to be collaborative.

For example, it may be very difficult for the community relations department in a large urban schcol system to get information about the activities and desires of certain community groups. In order for the department to succeed this department must be very loosely controlled so that it can meet the public in the evenings, at community events, and whenever the need arises. On some days persons in that department may not report to work in the mornings because they would be required to work evenings. They may take Monday and Tuesday off and work instead on the weekends. Persons with special ethnic orientations may have to be part of the department in order for it to effectively communicate with certain

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[9] Ibid.

community groups. Their special ethnic backgrounds and organizational orientations may require different forms of organization for them to be effective. For example, they may not have a high regard for being punctual. Their goals may be to help the people in their community--sometimes even at the expense of the school system.

The different cognitive and emotional orientations between people in the community relations department and those in a traditional unit such as the science department may be important. The latter group may be very punctual, expect to abide by the rules, and may employ persons who have come up through the system.

Persons in that unit may push hard for more internal structure and order. They may be upset by the community relations group's special status and the way it flagrantly disobeys the rules. The environment of the science department provides easy access to information and does not put such extraorganizational demands on that unit as it does on the community relations department.

In a meeting together the administrative heads of the two units could come into conflict because of their different work orientations. The science department director may push for more organizational control and structure, but this would surely be resisted by the head of community relations. As a result of its response to the environment the organization would have created a situation that makes it very difficult for two units such as these to collaborate.

It is obvious that the head of the more traditional science department may not be comfortable working with the "free-wheeling" community relations director. They probably have very different points

of view on a given subject and would come into conflict trying to make a decision. The environment may require that they work together closely on a community science program however. This is what has been referred to as the environmental requirement for collaboration. It is important because the relationships (integration) between the units do not really matter unless they have to work together. Thus, while differentiation may cause relationship strains between many units, it is especially important to the organization when these strains are between two units required to collaborate in order to accomplish some environmental demand.

In summary, as the organization segments to meet the diverse needs of the environment, some form of differentiation between organizational members will be required. In an adaptive organization a high requirement for differentiation usually leads to a high state of differentiation. A high state of differentiation adversely affects the potential for collaboration or integration. Where the environment requires coordination or collaboration, this could be a serious problem and something will probably have to be done to bring the parties into a collaborative arrangement.

Part of the Lawrence and Lorsch theory is also designed to diagnose the system's potential for resolving conflicts among lowly integrated units that are required to work together. Some of the research is also informative for helping organizations to determine, in cases where there is a high requirement for collaboration but low integration, how to resolve this problem. This prescription phase of the Lawrence and Lorsch approach (i.e., what to do about such problems as the ones cited above) will not be discussed in this paper. The focus of the paper is to introduce the reader to the diagnostic model for ascertaining to what extent

the urban school organization is adapting to its organizational environment.

Methodology

The research testing the Lawrence and Lorsch approach to organizational analysis was conducted in a large urban school system on the East Coast. This research site will hereafter be referred to as Eastern City.

Questionnaires were distributed and collected between March and April of 1970. Ninety-two administrators at the rank of principal, department director and superintendent received the questionnaires and a total of eighty-two administrators returned them. Of those who returned the questionnaires, twenty-four are principals, thirty-one are department directors, six are Area Superintendents and seven are Associate Superintendents. In addition, forty-one administrators from all levels of the Eastern City School Department were interviewed between March and April, 1970.

Using the Lawrence and Lorsch operational definition of the environment (i.e., it is needed information), the environmental requirements for differentiation were calculated by asking the respondents to report (1) the amount of change which had occurred in their work over the past five years, (2) the degree of difficulty for obtaining information from external sources, (3) the time-span of definitive feedback and (4) the extent to which information from one subenvironmental source is needed more than information from other subenvironments.

The amount of change in task over the past five years is a surrogate measure of information uncertainty. If the general environment has been fast-changing, it is expected that information will get back to the organization and affect the way tasks are performed. In an adaptive

organization job assignments would change with the environmental requirements for change.

The degree of difficulty for obtaining information from external sources is a more direct measure of environmental uncertainty. Information from external groups and organizations is the most difficult kind of information for an organization to control. It is outside the scope of the legitimate authority of the organization.

The time-span of definitive feedback is an indicator of the environmental requirements for differentiation between organizational employees on time. Do they need to have different time orientations because one unit's subenvironment gets immediate feedback while another unit does not get definitive feedback for six months?

The extent to which information from one subenvironmental source is required over that coming from another subenvironment is determinent of required differentiation on goal orientations of the various units. If information from one source (e.g., the black community) is needed most by all of the organizational units in order to be effective then there will be no need for differentiation on goals to meet the diverse requirements of the various subenvironments.

The actual state of differentiation between the various administrators was measured by determining how they actually differed on three organizational dimensions: time, structure and goal orientations. On time orientations, it was of interest to determine whether a unit had long or short-term time horizons. On structure, how the units varied on loose v. tight organizational controls was the question. On goal orientations, the relative importance of four school system goals for each of the units

was measured to determine to what extend they differed on these goal concerns. The goals used in the study were: school and classroom goal concerns, concern for the individual pupil, concerns for innovation, and concerns for external relations.

The indicators for required differentiation match with those used for actual differentiation. That is, one set of indicators tries to measure what are the environmental requirements for differentiation and the other set measures the actual organizational state on those dimensions. Figure 1 illustrates how the various indicators match to determine the

FIGURE 1

The Matching of Indicators of Required and Actual Differentiation

	Required Differentiation	(with)	Actual Differentiation
(1)	change in task over the past five years		organizational structure
(2)	degree of difficulty for obtaining information from external sources		organizational structure
(3)	time-span of definitive feedback		time orientations
(4)	extent to which one organizational subenvironment dominates the others		goal orientations

effects and requirements of the environment on the organization. Required differentiation indicators one and two measure information uncertainty. If information is very difficult to obtain then, as in the case of the community relations department example, the units will be required to be

loosely structured so as to effectively cope with its environment. If, on the other hand, information is relatively certain then the units can be more tightly structured or controlled.

The time-span of definitive feedback indicates whether the units get feedback quickly or slowly. A unit which receives immediate feedback is required by the environment to have more short-term orientations. One that takes a long time to get such feedback will probably have long-term orientations.

If information from one source is more important to all of the various units than information from other sources then there is no need for differentiation on goal orientations. If the infromation need is varied, however, then the various units should have goals corresponding to the subenvironments with which they work most closely.

To measure the environmental requirements for collaboration, the various units were asked how much they should work with other units in order to be most effective.

The state of integration was determined by asking the various units to rate the quality of their collaborative relationships with other units.

The indicators for required collaboration and integration do not match in the same way that the other sets did. These measures are used to determine the state of relationships (integration) or potential for collaboration among units required to work together. How relationships are affected by differentiation is also discussed.

Lawrence and Lorsch contend that industrial organizations become segmented into three major subsystems for purposes of coping with the

environment: a sales subsystem to cope with the market environment, a production subsystem to cope with the techno-economic environment, and a research and development subsystem to cope with the scientific environment.[10]

In a school system there are three corresponding subsystems which cope with the environment. There is usually an externally-oriented subsystem that represents the school system to the outside world. There is a planning and innovation subsystem that is concerned about new technology and improved programs and relates with the scientific-university subenvironments. There is the teaching subsystem that is mostly concerned with the teaching-learning (classroom) process and relates to corresponding teacher-learner subenvironments (e.g., associations, in-service training technologies, other organizations which produce teaching tools). However, these subsystems are not as delineated as are their industrial counterparts. Some persons and units might at times be involved in both functions. It is possible, however, to select units which generally fit into these categories.

For purposes of the study, the author chose from job descriptions and interview data the people in the Eastern City School Department which would most often fit into the externally-oriented and planning and innovative subsystems. At the most there were only eleven people who qualified as members of the externally-oriented subsystem. Twelve could be placed in planning and innovation category. Thirty-one administrators could be categoried as part of the teaching subsystem.

Because the principal group was originally selected as a random sample (Twenty-four of the ninety-two principals received questionnaires),

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[10]Information taken from a seminar discussion with Jay W. Lorsch.

it was not possible to have a total population comprised of the teaching subsystem administrators. Such a total population comes to one-hundred and six. A decision was therefore made, because of the statistical problems involved in combining whole and sample populations, to use for the study sample the whole externally-oriented subsystem population (eleven) to randomly drop one member from the planning and innovation group for a total of eleven, and to randomly select an equal number of respondents from teaching. As a result, each subsystem is composed of an equal number of respondents (eleven), two subsystems having for all intents and purposes whole populations and one group represented by a random sample.

In the sample, the principals and heads of academic departments (e.g., science, fine arts) clearly represent the teaching subsystem. The Associate Superintendents are supposed to be planners and innovators for the functions they represent. The Business Manager and the directors of five related departments also fall into this category. The Area Superintendents in Eastern City were created to be the system's representatives to the community in their part of the city. The Department of Educational Publication and Information Services is the school system's public relations department, and the Board of Examiners, is concerned with recruitment. The School Committee is very political in Eastern City and its members are concerned about representing their constituents. Thus, the Area Superintendents, School Committee, and the two departments mentioned represent the externally-oriented subsystem.

This means that of a total of one-hundred and forty-six administrators at the rank of Principal, Department Director, and Superintendent in the Eastern City School Department, a total of thirty-three are

representing the three major organizational subsystems from which we will draw conclusions about the whole organization.

Summary of Findings in Eastern City

In Eastern City, where the research testing this theory was conducted, it was discovered that there is a moderate to high environmental requirement for differentiation between the subsystems. Table I illustrates how the three subsystems rank on the various dimensions of required

TABLE I

Differentiation Required Between The Subsystems In Eastern City

Dimensions	Median Scores: Teaching	Planning/ Innovation	Externally-Oriented	Statistical Difference
change in task over the past five years	40-60%	60-100%	40-60%	.01
degree of difficulty for obtaining information from external sources	Somewhat Difficult	Easy	Easy	.05
time-span of definitive feedback	One Month	One Month	One Month	NS
extent to which one organizational sub-environment dominates the others	University-scientific	University-scientific	University-scientific	NS

differentiation. There is a requirement for differentiation on three of the measures. The fact that no particular subenvironment significantly dominates the others means that there is a requirement for differentiation

on goal orientations.

The median scores help us to determine the direction of the requirements. Information uncertainty (the first two measures) is not so dramatic as one might expect to find under conditions of industrial competition. Jobs have changed a great deal over the past five years, however, and the interviews reveal that while external information is generally accessible it is difficult to obtain from some very important sources (e.g., some groups in the black community). It is therefore expected that structural adaptation in the organization will vary but that the organization will not have to be either very tightly or very loosely controlled.

It takes a relatively long time to get definitive feedback. It is expected that the time orientations will not be significantly different among the three subsystems in Eastern City and that they will be more long-term oriented.

In the case of all three subsystems information from the university-scientific subenvironment is reported to be needed most. However, this subenvironment does not dominate the three subsystem's need for information. There is a requirement to have different goal orientations in order to obtain essential information from all the relevant subenvironments.

In an organization that adapts to its organizational environment, there would be a match between the requirements for differentiation and the actual state of differentiation. In the case of the Eastern City school system it should show actual differentiation between the subsystems on structure and goal orientations. Differentiation is not required on time orientations.

There is a relatively low state of actual differentiation in

Eastern City. Table II presents the data representing this actual organizational state. It is apparent from the table that on only three of the four

TABLE II

Actual Differentiation Between
The Subsystems In Eastern City

Dimensions	Median Scores: Teaching	Planning/ Innovation	Externally-Oriented	Statistical Difference
Structure	Moderate to Tight	Moderate to Tight	Moderate to Loose	NS
Time Orientations	60-80% of time spent on short-term orientations	60-80%	60-80%	NS
Goal Orientations				
a) School and Classroom	1st	3rd	3rd	NS
b) Individual Pupil	2nd	4th	4th	.01
c) Innovation	3rd	1st	2nd	.001
d) External Relations	4th	2nd	1st	.001

goal concerns are the subsystems significantly different. This means that the Eastern City School Department has not adapted to the requirements for differentiation coming from its external environment on organizational structure and on the school and classroom goal concern.

While the actual goal orientations fit the goal expectations for the three subsystems and while the structure also corresponds to the information uncertainties reported, the median scores on time orientations do not correspond to the environmental requirements. Definitive feedback

was slow, thereby requiring rather long-term time orientations. However, each of the subsystems report spending on the average from 60-80% of their time on short-term matters of immediate importance.

The actual integration data show that relationships are quite good in the Eastern City school system. Table III points out how the quality of collaborative relationships are perceived in the school system. There

TABLE III

Integration
(Median Scores)

As Reported By	Teaching	Planning/Innovation	Externally-Oriented
Teaching	x	Sound	Sound
Planning and Innovation	Average	x	Somewhat Better Than Average
Externally-Oriented	Somewhat Better Than Average	Sound	x

are two perceptions of the quality of the relationships and sometimes there is a discrepancy between those perceptions. For example, the teaching subsystem perceives its relationships with Planning and Innovation to be "sound" whereas Planning and Innovation subsystem people perceive that relationship to be just "average." In cases where there is a significant relationship discrepancy there is probably a relationship problem.

If one group perceives the relationship to be sound and the other perceives it to only be average, then there is evidence that one group has some negative feelings about the quality of the relationship. Whether or not the relationship is actually sound or average is a matter of perception

and feeling. People act according to their perceptions and feelings. Hence, party A might avoid party B if he feels that B does not like him. In fact, B might like him very much but A still acts according to his own perceptions. The perceptions represent the most important relationship data.

A statistical analysis of the perception scores reveals that the discrepancy between teaching and planning and innovation is the only significant difference in perception. It is significant at the .05 level.

While all of the relationships are generally positive in Eastern City, there is a significant discrepancy between how the teaching and planning and innovation subsystems perceive the quality of their relationships one with another. This discrepancy might itself cause a relationship strain between the two groups. Are the two groups required by the environment to collaborate? A relationship strain between two groups who do not have to work together is not so serious as one between parties required to be interdependent.

It is apparent from the required collaboration data collected for the study that there is a need for the teaching and planning and innovation subsystems to work closely together. Thus, the potential for collaboration (integration) data, which shows some relationship strain between these two subsystems, is important given that the two groups are required by the environment to work closely together.

Analysis

Lawrence and Lorsch have found that it is difficult to achieve high integration in highly differentiated industrial organizations. Another relationship also appears to be true. The Eastern City school system is

lowly differentiated, and integration is high. This state of events can be explained using the same line of reasoning.

If there is low differentiation, then there are similar cognitive and emotional orientations and little basis for disagreement. The quality of collaborative relationships will be high because administrators tend to think and behave in a similar manner.

There are data to support this argument. It was discovered, for example, that there is a large degree of administrative inbreeding in Eastern City. About 75% of the administrators at the rank of assistant principal or above went to local high schools. About 40% of them are of the same ethnic and religious background. Ninety percent of the administrators are over age thirty-five and most of those in the top echelons of the hierarchy are fifty to sixty-five years of age. All of the administrators in the Eastern City School Department have come up through the ranks. There are no "outsiders."

It has been determined that Eastern City has not adapted to the environmental requirements on two dimensions of differentiation: organizational structure, and school and classroom goals. However, it does appear that the organization is adaptive on integration. There is a requirement for more collaboration and there are generally positive relationships (a good potential for collaboration) between the subsystems. It could be concluded that Eastern City is adaptive on this dimension. However, data were also collected to determine the extent to which the units actually collaborate given the environmental requirements for collaboration. Table IV presents that comparative data.

The data reveal that the percent of time actually spent collaborating

TABLE IV

Actual v. Required Collaboration
(Median Scores)

	Teaching	Planning/ Innovation	Externally-Oriented
A. Actual Collaboration			
Teaching	x	5%	5%
Planning and Innovation	10%	x	10%
Externally-Oriented	10%	10%	x
B. Required Collaboration			
Teaching	x	5%	5%
Planning and Innovation	50%	x	10%
Externally-Oriented	50%	10%	x

is not extensive. It does not match the requirements for collaboration. Therefore, the school system is not adapting to its environment on collaboration. This is still more evidence to show that it is not adaptive to its organizational environment.

The small amount of time actually collaborating also helps to explain the high state of integration. If people do not have to work together on common tasks there is little basis for disagreement. To meet superficially is to enjoy good relations without really testing your potential for collaboration. Stories are common about persons who enjoy good interpersonal relations until they must do some work together. Then they conflict because they have different work orientations.

In summary, the low state of differentiation--especially the administrative inbreeding--helps to account for the high state of integration in the Eastern City School Department. The low state of actual collaboration

also accounts for high integration and makes it impossible to predict Eastern City's potential for collaboration between units required by the environment to work together. This urban school system has not adapted to its organizational environment on differentiation or collaboration. When and if it moves to differentiate or collaborate more, the high quality of relationships (integration) may help the process or they may dissolve because they are as yet largely untested in a work situation.

Conclusion

The Lawrence and Lorsch method has proved to be useful to analyzing how the internal organization functions in relation to its external environment. In this study it was discovered that the Eastern City school organization has not adapted to its environmental requirements.

Some of the major weaknesses of the Lawrence and Lorsch approach are, first of all, in the crisis-oriented urban school setting. Urban educators need to know how to streamline their organizations. They also need to have knowledge about their organizational environments. Which external organizations threaten their survival as an organization? Which groups have the resources to help or to hurt them? What are the major forces in the environment that could change the present direction of the city school system? These are all very important questions being posed by urban educators, the answers to which are outside the scope of the Lawrence and Lorsch approach to analyzing complex organizations. There are also a number of methodological problems in using the Lawrence and Lorsch theory. Is it accurate to operationally define the environment as information? Does the existence of a condition of high integration yet low collaboration in Eastern City indicate that the methods for measuring

integration as potential collaboration are inadequate?

Finally, what does the Lawrence and Lorsch theory tell us about some of the major policy questions about city school systems which are currently being developed? Some of those policy issues are: should urban schools be allowed to continue in their present form? Should the reigns of urban school organization be taken from a central administration and given to the local schools themselves? Every school would have its own organization based on the requirements of its own community (environment). Should we foster competing urban school organizations so that there is a range of choices to meet the demands for diversity?

The Lawrence and Lorsch approach speaks indirectly to some of these policy questions. By assuming differentiation because it is biased towards industrial (competing) organizations, the approach would seem to favor organizational competition. It also is established to suggest ways to cope systemically with complex organizational issues and therefore would not favor a reduction in organization from the central office to the school. However, on any one of these policy issues the Lawrence and Lorsch approach does not provide enough information to enable us to make a policy decision.

From this exploratory study, designed to test Lawrence and Lorsch in an urban school setting, has emerged a number of testable hypotheses for future studies. They are:

H_1: when a high state of inbreeding exists in an urban school organization there will be a low state of differentiation.

This is because administrators who have been properly socialized to "fit" the system will tend to think and behave in similar ways. It is

also the case that such inbreeding exists in many big city school systems, so the hypothesis is not peculiar to Eastern City.

H_2: in an urban school organization, there will be a moderate but not high degree of differentiation required.

Public school organizations do not have the diversity of subenvironments present for those organizations which compete for profits. Rather, the environment of an organization like an urban school system has major and minor clients to serve and a number of interest groups. The various demands are often "loud" (very public) and crisis-oriented but do not generally come from an intricate network of interlocking sources. There is not as much impetus to outdo competing organizations for tangible rewards. The object is to survive.

H_3: in an urban school organization a moderate but not high amount of inter-unit collaboration will be required.

For the same reasons stated above (the lack of environmental diversity) urban school organizations will require only moderate interdependence to succeed. That is, many tasks can be accomplished by one set of experts (e.g., community relations persons, teachers, one department) rather than having to involve many different experts. Schooling must take place in many buildings that are removed from central headquarters, so the interdependence is also limited by space restrictions in an urban school system.

H_4: in an urban school organization there will be a low state of actual collaboration.

Data from Chicago[11] and New York[12] also affirm that there is a great deal of autonomy of principals and department heads in urban school systems. Part of this autonomy may be due to strong teacher norms to be left "self-contained" in the classroom. Also, there is the sense of individual work which comes from being "professional." The largess of an urban school system and the continuous reaction to crisis situations at the top such that there is little time for normal supervision all contribute to this condition of autonomy. At any rate, autonomy does exist and, by definition, should lead to a low state of collaboration in an urban school system.

H_5: when a state of inbreeding exists in an urban school organization there will be a high state of actual integration.

Because of little collaboration and much socialization, the orientations and behaviors of administrators will tend to be similar in nature. Thus, there will be little basis for conflict. The quality of collaborative relationships, while yet untested, will remain high.

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[11] see Morris Janowitz, Institution Building In Urban Education (1969).

[12] see David Rogers, 110 Livingston Street (1968).